positive association (p<0.05) with different cardiovascular outcomes. However, in the multivariate models, only those experiencing heartburn (adjusted OR 1.3, 95% CI 1.0-1.7) during pregnancy were at greater risk of having hypertension 21 years post partum. Women experiencing morning sickness (adjusted OR 1.2, 95% CI 0.8-2.0) and backache (adjusted OR 1.1, 95% CI 0.6-1.7) were not considered to be at risk for future heart disease. **CONCLUSIONS:** As a whole, our study suggests that most common symptoms of pregnancy are not associated with an increased risk of cardiovascular disease or with hypertension in the long term.

PRM68

INCREASED ACCURACY OF DISTRIBUTION BASED MISSING VALUE IMPUTATION: AN ALTERNATIVE TO MEAN INPUTATION IN REAL WORLD ENVIRONMENT SURVEY RESEARCH

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OBJECTIVES: Missing values within variables can impede accurate data analysis on many levels including both univariate and multivariate analysis. This research presents distribution-based imputation (DBI), where the distribution of non-missing values is simulated to create a set of values that are then randomly inserted into to the missing values in the actual data and compares this against mean based imputation (MBI). **METHODS:** DBI was compared to MBI in 12 different simulation conditions based on three sample sizes (50, 100, 150 and 200) and three different missing value percentages for each of the sample sizes (10%, 20% and 30%). Each simulation created 1,000 test datasets within each condition for a total of 12,000 simulated datasets. The statistical package, R was used for the sumilation. **RESULTS:** MBI was biased by simulating smaller Standard Deviations, and less accurate in mean estimation than DBI in all 12 simulation combinations. DBI was more accurate in matching the number of rejected hypotheses as compared to the gold standard. Comparing the calculated p-values for bias where an unbiased estimator would demonstrate a 50/50 split being greater than and less than the gold standard, DBI was closer to the gold standard with at 48.7/51.3 split, as compared to the 25.8/74.2 split of MBI. **CONCLUSIONS:** DBI was found to be more accurate and unbiased as compared to MBI methods. As a result, when studies are small and do not contain a large number of variables, or in situations where more elaborate imputation methods cannot be done, DBI is an accurate and unbiased method.

PRM69

INDIRECT COMPARISON OF THE EFFECTS OF ANTI-TNF BIOLOGICAL AGENTS IN PATIENTS WITH ANKYLOSING SPONDYLITIS BY MEANS OF A MIXED TREATMENT COMPARISON PERFORMED ON EFFICACY DATA FROM PUBLISHED RANDOMISED, CONTROLLED TRIALS

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OBJECTIVES: To compare ASAS (Assessment in Ankylosing Spondylitis Response Criteria) 20 response patterns between anti-TNF biological agents in patients with ankylosing spondylitis by means of a mixed treatment comparison of different randomised, controlled trials (RCTs) on the efficacy of biological therapies. **METHODS:** A systematic review of literature was performed to identify a number of similarly designed double-blind, randomized, placebo-controlled trials investigating the efficacy of the TNF-alfa inhibitors etanercept, infliximab, golimumab, certolizumab pegol and adalimumab in the treatment of ankylosing spondylitis patients, conducted over an 18-years period. The endpoint of interest was ASAS20 response criteria at 12 weeks. Results were analyzed simultaneously using Bayesian mixed treatment comparison techniques. Results were expressed as odds ratio (OR) of ASAS20 response and associated 95% credible intervals (CrIs). The probability of being the best treatment was also reported. **RESULTS:** 6 RCTs were selected for data extraction and further analysis. By mean of MTC, all anti-TNF agents demonstrated to be more efficacious in inducing a ASAS20 response than placebo. Infliximab shows a 67,6% of probability of being the best treatment of all. Adalimumab, golimumab and etanercept show probabilities of 17,7%, 10,6% and 4%, respectively, while certolizumab pegol showed a probability of being the best treatment of 0,1%. No differences were observed when comparing directly an anti-TNFalfa agent against another. **CONCLUSIONS:** Even if the mixed treatment comparisons between infliximab, golimumab, certolizumab pegol, adalimumab and etanercept did not show a statistically significant difference, this analysis suggests that infliximab, compared to placebo, is expected to provide the highest rate of ASAS20 response in SA patients naive to biologic treatments.

PRM70

A TUTORIAL ON DIMENSIONALITY REDUCTION IN LARGE CLAIMS DATA SETS

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OBJECTIVES: The objective of this presentation will be to introduce the audience to various data dimension reduction techniques that may be applied in the setting of a large commercial claims data set to facilitate the task of identifying important factors or key features for use in subsequent analysis. **METHODS:** The author will provide a brief survey of the data dimension reduction literature from areas as diverse as image analysis, neural networks, gene expression microarrays, and high through-put chemistry to demonstrate that despite that many of these techniques have been used in other settings or areas of research, their application to the analysis of health care claims data is relevant and potentially quite useful. **RESULTS:** One, all-purpose, optimal data dimension technique does not exist for application in the analysis of health care claims data. The analyst needs to weigh the features of the large data set under consideration, the objectives of the downstream or subsequent analysis, and the availability of tools for ease of use and interpretation of results. **CONCLUSIONS:** The number of data dimension reduction techniques available to claims data set researchers is large and diverse; however, keys features of these various approaches can help the analyst make an informed decision that is effective with some simple setting and objectives diagnosis.

PRM71

REIMBURSEMENT DECISIONS IN ONCOLOGY DRUGS: AN INTERNATIONAL ANALYSIS

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OBJECTIVES: The aim is to compare the drug reimbursement decisions of innovative anti-cancer drugs in five countries (UK, France, Italy, Spain & Australia). Our approach was to identify both convergence and divergence in these reimbursement decisions and to assess the agreement level between the policy makers. **METHODS:** For our analysis we have used 39 oncology drugs authorized by the EMA between January 2004 and December 2012 covering a total of 65 indications, and we have compared the reimbursement decisions in theses 5 countries. We reviewed the technology appraisal performed by their respective national HTA agencies and their reimbursement decisions. We have also analyzed the level of agreement for reimbursement decisions between pairs of each country with kappa scores. **RESULTS:** Out of these 39 drugs, only 16 drugs were reimbursed in Australia, 15 in England, 38 in France, followed by Italy and Spain, which respectively reimbursed 29 and 28 drugs. When we have analyzed the common reimbursement decision taken, we have observed that between France and Italy 72% of common positive reimbursement decision were taken, and between France and England only 33 % of positive reimbursement decisions are common. In contrast we have found 49 % of common negative reimbursement decision between England and Australia. Then we have measured the consistency between decision makers with KAPPA scores and it came out that France, Italy and Spain are often in agreement in their reimbursement decisions, and that conversely France and England decisions are significantly in disagreement. **CONCLUSIONS:** This study demonstrates that the discordance between countries reimbursement decisions, in most cases may reflect the differences in the decision making process (Eg. France Vs England). But this analysis cannot be conclusive. This is why we have carried out further researches using larger datasets allowing us to highlight some elements yielding to these reimbursement decision differences between countries.

PRM72

EASY COME, HARDLY GO: EPIDEMIOLOGICAL METHODS TO EVALUATE THE EFFECT OF ISPOR BOARD OF DIRECTORS MEMBERSHIP ON PUBLICATION ACTIVITY

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OBJECTIVES: ISPOR is approaching its 10th anniversary, which offers a suitable occasion to assess the impact of the organization. As the number of members increased, the influence of the Board of Directors on scientific discussions also emerged. The aim of this research is to present what effect being elected an ISPOR Director has on a researcher's publication activity by using epidemiological methods and data mining techniques. **METHODS:** Data on number of publications by year, co-authors, titles, abstracts of former ISPOR Directors between 1995 and 2012 were obtained from public sources (ISPOR website and PubMed) and analysed by an algorithm developed by the authors in R. A case-only study design was applied by matching the duration spent as a member of the Board of Directors with the same period prior to and after finishing the directorate term. Incidence rate ratios (IRR) were estimated by fitting separate Poisson regression models to correct for the baseline increase in publication activity. The average number of co-authors and probability of the director being the first author was also analysed. **RESULTS:** The IRR of the period preceding to directorate versus the directorate period was 1.59 (CI 95%: 1.34-1.91), yielding statistically significant association. The IRR of directorate period versus the period succeeding the directorate period was 1.01 (CI 95%: 0.88-1.13). The average number of co-authors was the highest after the directorate term (5.94); the probability of the director appearing as the first author was the highest prior to directorate term (22.91%). **CONCLUSIONS:** As a result of our study, it has been statistically proven that being an ISPOR Director does not only provide leadership in a scientific organization, but can enhance the members' career as a researcher. ISPOR Directors are more likely to co-author publications even after finishing their directorate term.

RESEARCH ON METHODS – Modeling Methods

PRM73

CREATING PATIENT PROFILE IN INDIVIDUAL SIMULATIONS: A COMPARISON OF APPROACHES

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OBJECTIVES: Individual simulation is increasingly used in economic models, partly because of its capability of predicting event risks based on individual patient characteristics. However, due to lack of individual patient level data, models often use means and standard deviations to create patient profiles. The objective of this study is to evaluate different simulation approaches of creating patient profile at baseline and their impact on model outcomes. **METHODS:** Patient level data (N=8,857) from National Health and Nutrition Examination Survey (NHANES) was used to evaluate three approaches of creating baseline patient profiles for simulation models. 10 samples of 1000 patients each were created through 1) random sampling from patient level data; 2) using means and standard deviations of the profile variables without correlating the characteristics; 3) using means and variance-covariance matrix among the continuous variable characteristics with cholesky decomposition approach. 10-year cardiovascular diseases (CVDs) rates are estimated using the created patient profiles from these 3 different approaches. **RESULTS:** The predicted CVD rates based on random sampling are 18.2% for males and 9.7% for females using the random sampling approach, 14.5% for males and 7.9% for females using the mean and standard deviation approach and 16.0% for males and 9.2% for females using the cholesky decomposition approach. The CVD rates using the NHANES entire